Practice: 643 - Restoration and Management of Rare and Declining Habitats

Scenario: #1 - Flash Grazing for Bog Turtle Habitat Restoration

Scenario Description:

Landowners with habitat for Bog Turtles complete flash grazing to promote restoration and management of these habitats. This is usually carried out annually. Livestock are temporarly allowed to graze the habitat area. Stocking is 0.75 AU/Acre. A Biologist is required to locate all existing bog turtles and relocate during the flash grazing. Livestock are transported to the site for the grazing. Normally use cattle, sheep or goats depending on the availabitily of the livestock for grazing and the type of vegetation being grazed. Associated practices include: 472 Access Control. Resource Conserns include inadequate fish and wildlife habitat.

Before Situation:

Bog Turtle habitat is degraded due to an overgrowth of woody vegetation. The areas do not provide the necessary habitat to fully support the Bog Turtle.

After Situation:

After flash grazing the habitat regenerate to vegetation and a structure that is beneficial to the Bog Turtle.

Scenario Feature Measure:

Scenario Unit: Acre

Scenario Typical Size: 2

Scenario Cost: $1,089.48 **Scenario Cost/Unit:** $544.74

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	$36.81	4	$147.24
Labor						
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$24.74	4	$98.96
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	$105.41	8	$843.28

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Scenario: #2 - Vernal Pool Creation

Scenario Description:

Creation of vernal pools to provide breeding habitats for anphibian species that are in decline. Vernal pools are usuallly located in forested landscapes. Vernal pools are usually 0.1-0.5 acres in size. Woody debris may be added to the vernal pools to improve the habitat. Resource concerns include Inadequate Cover/Shelter. Practcie 643 is being used in lieu of Wetland Creation because a vernal pool may not support permanant wetland vegetation. Associated practices include: 390 Riparian Herbaceous Cove, 460 Land Clearing.

Before Situation:

Forested landscape has limited number of vernal pools. Surrounding lands have been developed resulting in a decrease number of sites for anphibian breeding. Lack of breeding has caused a decrease in anphibian populations.

After Situation:

A vernal pool is create which provides additional cover/shelter fior breeding anphibians. The anphibian popultation increase in the area of the vernal pool.

Scenario Feature Measure:

Scenario Unit: Acre

Scenario Typical Size: 0

Scenario Cost: $3,652.89 **Scenario Cost/Unit:** #Div/0!

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Dozer, 80 HP	929	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	$66.54	8	$532.32
Skidsteer, 80 HP	933	Skidsteer loader with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	$42.73	16	$683.68
Chainsaw	937	Equipment and power unit costs. Labor not included.	Hour	$6.23	5	$31.15
Hauling, bulk, highway truck	1615	Hauling of bulk earthfill, rockfill, waste or debris. One-way travel distance using fully loaded highway dump trucks (typically 16 CY or 20 TN capacity). Includes equipment and labor for truck only. Does not include cost for loading truck.	Cubic Yard Mile	$0.32	600	$192.00
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$24.86	32	$795.52
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	$34.14	8	$273.12
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	$42.58	4	$170.32
Mobilization						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	$487.39	2	$974.78

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Scenario: #3 - Restore Multi-Aged Old Growth Forest Characteristics

Scenario Description:

The restoration of old multi-aged growth forest characteristics through marking legacy trees, creating snags and coarse woody debris. Approximately 4 trees per acre are felled for coarse woody debris. The average site is 10 acres in size. A forester marks the trees to be cut and trees are removed with a chain saw.

Before Situation:

Found in New England forest. Small block of forest typically 10 acres that do not provide adequate wildlife nesting sites, woody debris. Wildlife habitat value is decreased. The needed habitat and nesting sites are not avaiable.

After Situation:

The forestland provdes adequate nesting sites and woody bebris on the forest floor. Wildlife food and cover is increased.

Scenario Feature Measure:

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: $1,577.95 **Scenario Cost/Unit:** $157.80

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Chainsaw	937	Equipment and power unit costs. Labor not included.	Hour	$6.23	24	$149.52
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	$40.66	24	$975.84
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	$105.41	4	$421.64
Materials						
Tree Marking Paint	313	Trees to be cut through tree marking are physically identified through the application of paint on the tree. Typically one quart of paint is used to mark one acre of trees. Includes materials and shipping only.	Acre	$6.19	5	$30.95

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Scenario: #4 - Creation of Oyster Reef Coastal Pond

Scenario Description:

Oyster reef are restored in shallow coastal pond or bays. These areas have limited access. Oyster reefs are created using clean cultch that is purchased from local shellfish processing plants. The typical unit size is 0.1 acres. Clean shell is placed in totes and loaded on boats to be taken to the reef restoration location. Shell is place using manual labor on pre-selected sites. Shell is usulally 1 foot in thickness.

Before Situation:

Coastal estuaries and coastal ponds are lacking beneficial oyster beds. The oyster beds have been degraded or eliminated due to poor water quality, weather events, or disease. Beds have limited population of oysters or lack any oysters. This limits the natural regeneration of the beds. The lack of or decrease in oyster beds limits wildlife food and cover. Water quality is decrease due to a lack of filtering by the oysters.

After Situation:

The biological and structural components of the oyster beds are restored. These populated oysters can continue to re-seed the bed, as well as, surrounding beds. Native wildlife habitat is increased. There is an increase in both food and cover for native wildlife. Oysters that set on the beds provide increased water quality by additional filtering of the water.

Scenario Feature Measure:

Scenario Unit: Acre

Scenario Typical Size: 0

Scenario Cost: $16,699.20 **Scenario Cost/Unit:** #Div/0!

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Boat, 150 HP	2407	22 foot boat with 150hp motor used to place cultch to create reef habitat.	Hour	$159.80	40	$6,392.00
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	$40.66	40	$1,626.40
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$24.74	40	$989.60
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	$42.58	40	$1,703.20
Materials						
Cultch	2409	Cultch material (used and/or slightly crushed, cleaned, medium to large sized shells). Includes materials only.	Ton	$59.88	100	$5,988.00

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Scenario: #5 - Oyster Reef Barge Crane

Scenario Description:

Restoration of native oyster beds by placing oyster shells to form beds in coastal estuaries or coastal ponds. Typically requires 100 tons of shells placed on the bottom of the coastal estuary. The shell is transported to the site via a barge. The transportation and placement of the shell usually takes three days. Normally 100 tons of oyster or clam shell is dried over winter to remove disease and placed on the bottom in strategic locations based on bathymetric positions in the estuary. The shell creates habitat for both the oysters and other native wildlife.

Before Situation:

Coastal estuaries and coastal ponds are lacking beneficial oyster beds. The oyster beds have been degraded or eliminated due to poor water quality, weather events, or disease. The lack of or decrease in oyster beds limits wildlife food and cover. Water quality is decrease due to a lack of filtering by the oysters

After Situation:

The structural components of the oyster beds are restored. These beds can be seeded by native oyster population. Native wildlife habitat is increased. There is an increase in both food and cover for native wildlife. Oysters that set on the beds provide increased water quality by additional filtering of the water.

Scenario Feature Measure:

Scenario Unit: Acre

Scenario Typical Size: 1

Scenario Cost: $19,346.14 **Scenario Cost/Unit:** $19,346.14

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Track Loader, 95HP	935	Equipment and power unit costs. Labor not included.	Hour	$87.68	8	$701.44
Barge with crane and operator	2408	Barge to transport and place 1 ton bags of cultch to form oyster reef habitat.	Hour	$360.90	27	$9,744.30
Labor						
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	$42.58	20	$851.60
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$24.74	35	$865.90
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12”, Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	$34.14	35	$1,194.90
Materials						
Cultch	2409	Cultch material (used and/or slightly crushed, cleaned, medium to large sized shells). Includes materials only.	Ton	$59.88	100	$5,988.00